

ABSTRACT OF THE DISCLOSURE

A catheter for delivering a therapeutic or diagnostic agent to a branch blood vessel of a major blood vessel, generally comprising an elongated shaft having at least one lumen in fluid communication with an agent delivery port in a distal section of the shaft, an expandable tubular member on the distal section of the shaft, and a radially expandable member on the tubular member. The tubular member is configured to extend within the blood vessel up-stream and down-stream of a branch vessel, and has an interior passageway which is radially expandable within the blood vessel to separate blood flow through the blood vessel into an outer blood flow stream exterior to the tubular member and an inner blood flow stream within the interior passageway of the tubular member.

The radially expandable member is located down-stream of the shaft agent delivery port, and has an expanded configuration with an outer diameter larger than an outer diameter of the tubular member. The expanded radially expandable member is configured to decrease the blood flow in the outer blood flow stream down-stream of the branch vessel. The catheter provides for delivery of an agent to a branch vessel of a major vessel, and continuous perfusion of the major blood vessel. Another aspect of the invention is directed to methods of delivering a therapeutic or diagnostic agent to one or both kidney's of a patient.

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